

## RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical  
Information Center (STIC) no errors detected.

Application Serial Number: 09/730,329A  
Source: 1FW/6  
Date Processed by STIC: 8/30/06

# ***ENTERED***



IFW16

## RAW SEQUENCE LISTING

DATE: 08/30/2006

PATENT APPLICATION: US/09/730,329A

TIME: 10:11:43

Input Set : A:\20060152706460US.ST25.txt

Output Set: N:\CRF4\08302006\I730329A.raw

3 <110> APPLICANT: Varghese, John  
 4     Sinha, Sukanto  
 5     Tung, Jay  
 7 <120> TITLE OF INVENTION: Beta-Secretase Enzyme Compositions and Methods  
 9 <130> FILE REFERENCE: 015270-006460US  
 11 <140> CURRENT APPLICATION NUMBER: 09/730,329A  
 12 <141> CURRENT FILING DATE: 2000-12-04  
 14 <150> PRIOR APPLICATION NUMBER: US 60/168,854  
 15 <151> PRIOR FILING DATE: 1999-12-02  
 17 <160> NUMBER OF SEQ ID NOS: 94  
 19 <170> SOFTWARE: PatentIn version 3.3  
 21 <210> SEQ ID NO: 1  
 22 <211> LENGTH: 1503  
 23 <212> TYPE: DNA  
 24 <213> ORGANISM: Homo sapiens  
 26 <400> SEQUENCE: 1  
 27 atggcccaag cctgcccctg gctcctgctg tggatgggag cgggagtgct gcctgcccac     60  
 29 ggcacccagc acggcatccg gctgcccctg cgcagcggcc tggggggcgc cccctgggg     120  
 31 ctgcggctgc cccgggagac cgacgaagag cccgaggagc ccggccggag gggcagcttt     180  
 33 gtggagatgg tggacaacct gaggggcaag tgggggcagg gctactacgt ggagatgacc     240  
 35 gtgggcagcc ccccgagac gctcaacatc ctgggtggata caggcagcag taactttgca     300  
 37 gtgggtgctg ccccccaccc cttcctgcat cgctactacc agaggcagct gtccagcaca     360  
 39 taccgggacc tccggaaggg tgtgtatgtg ccctacaccc agggcaagtg ggaaggggag     420  
 41 ctgggcaccg acctggtaag catcccccat ggccccaacg tcaactgtgc tgccaacatt     480  
 43 gctgccatca ctgaatcaga caagttcttc atcaacggct ccaactggga aggcacctctg     540  
 45 gggctggcct atgctgagat tgccaggcct gacgactccc tggagccttt ctttgactct     600  
 47 ctggttaaagc agaccacagt tcccaacctc ttctccctgc agctttgtgg tgctggcttc     660  
 49 cccctcaacc agtctgaagt gctggcctct gtcggaggga gcatgatcat tggaggtatc     720  
 51 gaccactcgc tgtacacagg cagtctctgg tatacaccca tccggcggga gtggtattat     780  
 53 gaggtgatca ttgtgagggt ggagatcaat ggacaggatc tgaaaatgga ctgcaaggag     840  
 55 tacaactatg acaagagcat tgtggacagt ggcaccacca accttcgttt gcccaagaaa     900  
 57 gtgtttgaag ctgcagtcaa atccatcaag gcagcctcct ccacggagaa gttccctgat     960  
 59 ggtttctggc taggagagca gctgggtgtg tggcaagcag gcaccacccc ttggaacatt     1020  
 61 ttcccagtc tctcactcta cctaattggg gaggttacca accagtcctt ccgcatcacc     1080  
 63 atccttccgc agcaatacct gcggccagtg gaagatgtgg ccacgtccca agacgactgt     1140  
 65 tacaagtttg ccatctcaca gtcattccag ggcactgtta tgggagctgt tatcatggag     1200  
 67 ggctttctac ttgtctttga tggggccgga aaacgaattg gctttgtgtg cagcgttgc     1260  
 69 catgtgcagc atgagttcag gacggcagcg gtggaaggcc cttttgtcac cttggacatg     1320  
 71 gaagactgtg gctacaacat tccacagaca gatgagtcaa cctcatgac catagcctat     1380  
 73 gtcattggct ccatctgcgc cctcttcatt ctgccactct gcctcatggg gtgtcagtgg     1440  
 75 cgctgcctcc gctgcctgcg ccagcagcat gatgactttg ctgatgacat ctccctgctg     1500  
 77 aag  
 80 <210> SEQ ID NO: 2

## RAW SEQUENCE LISTING

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81 <211> LENGTH: 501
82 <212> TYPE: PRT
83 <213> ORGANISM: Homo sapiens
85 <400> SEQUENCE: 2
87 Met Ala Gln Ala Leu Pro Trp Leu Leu Leu Trp Met Gly Ala Gly Val
88 1          5          10          15
91 Leu Pro Ala His Gly Thr Gln His Gly Ile Arg Leu Pro Leu Arg Ser
92          20          25          30
95 Gly Leu Gly Gly Ala Pro Leu Gly Leu Arg Leu Pro Arg Glu Thr Asp
96          35          40          45
99 Glu Glu Pro Glu Glu Pro Gly Arg Arg Gly Ser Phe Val Glu Met Val
100         50          55          60
103 Asp Asn Leu Arg Gly Lys Ser Gly Gln Gly Tyr Tyr Val Glu Met Thr
104 65          70          75          80
107 Val Gly Ser Pro Pro Gln Thr Leu Asn Ile Leu Val Asp Thr Gly Ser
108          85          90          95
111 Ser Asn Phe Ala Val Gly Ala Ala Pro His Pro Phe Leu His Arg Tyr
112          100         105         110
115 Tyr Gln Arg Gln Leu Ser Ser Thr Tyr Arg Asp Leu Arg Lys Gly Val
116          115         120         125
119 Tyr Val Pro Tyr Thr Gln Gly Lys Trp Glu Gly Glu Leu Gly Thr Asp
120          130         135         140
123 Leu Val Ser Ile Pro His Gly Pro Asn Val Thr Val Arg Ala Asn Ile
124 145         150         155         160
127 Ala Ala Ile Thr Glu Ser Asp Lys Phe Phe Ile Asn Gly Ser Asn Trp
128          165         170         175
131 Glu Gly Ile Leu Gly Leu Ala Tyr Ala Glu Ile Ala Arg Pro Asp Asp
132          180         185         190
135 Ser Leu Glu Pro Phe Phe Asp Ser Leu Val Lys Gln Thr His Val Pro
136          195         200         205
139 Asn Leu Phe Ser Leu Gln Leu Cys Gly Ala Gly Phe Pro Leu Asn Gln
140          210         215         220
143 Ser Glu Val Leu Ala Ser Val Gly Gly Ser Met Ile Ile Gly Gly Ile
144 225         230         235         240
147 Asp His Ser Leu Tyr Thr Gly Ser Leu Trp Tyr Thr Pro Ile Arg Arg
148          245         250         255
151 Glu Trp Tyr Tyr Glu Val Ile Ile Val Arg Val Glu Ile Asn Gly Gln
152          260         265         270
155 Asp Leu Lys Met Asp Cys Lys Glu Tyr Asn Tyr Asp Lys Ser Ile Val
156          275         280         285
159 Asp Ser Gly Thr Thr Asn Leu Arg Leu Pro Lys Lys Val Phe Glu Ala
160          290         295         300
163 Ala Val Lys Ser Ile Lys Ala Ala Ser Ser Thr Glu Lys Phe Pro Asp
164 305         310         315         320
167 Gly Phe Trp Leu Gly Glu Gln Leu Val Cys Trp Gln Ala Gly Thr Thr
168          325         330         335
171 Pro Trp Asn Ile Phe Pro Val Ile Ser Leu Tyr Leu Met Gly Glu Val
172          340         345         350
175 Thr Asn Gln Ser Phe Arg Ile Thr Ile Leu Pro Gln Gln Tyr Leu Arg

```

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176          355          360          365
179 Pro Val Glu Asp Val Ala Thr Ser Gln Asp Asp Cys Tyr Lys Phe Ala
180          370          375          380
183 Ile Ser Gln Ser Ser Thr Gly Thr Val Met Gly Ala Val Ile Met Glu
184 385          390          395          400
187 Gly Phe Tyr Val Val Phe Asp Arg Ala Arg Lys Arg Ile Gly Phe Ala
188          405          410          415
191 Val Ser Ala Cys His Val His Asp Glu Phe Arg Thr Ala Ala Val Glu
192          420          425          430
195 Gly Pro Phe Val Thr Leu Asp Met Glu Asp Cys Gly Tyr Asn Ile Pro
196          435          440          445
199 Gln Thr Asp Glu Ser Thr Leu Met Thr Ile Ala Tyr Val Met Ala Ala
200          450          455          460
203 Ile Cys Ala Leu Phe Met Leu Pro Leu Cys Leu Met Val Cys Gln Trp
204 465          470          475          480
207 Arg Cys Leu Arg Cys Leu Arg Gln Gln His Asp Asp Phe Ala Asp Asp
208          485          490          495
211 Ile Ser Leu Leu Lys
212          500

```

215 &lt;210&gt; SEQ ID NO: 3

216 &lt;211&gt; LENGTH: 27

217 &lt;212&gt; TYPE: DNA

218 &lt;213&gt; ORGANISM: Artificial

220 &lt;220&gt; FEATURE:

221 &lt;223&gt; OTHER INFORMATION: Degenerate oligonucleotide primer derived from SEQ ID NO:2

223 &lt;400&gt; SEQUENCE: 3

224 gagagacgag agagaccatg aggagcc

27

227 &lt;210&gt; SEQ ID NO: 4

228 &lt;211&gt; LENGTH: 27

229 &lt;212&gt; TYPE: DNA

230 &lt;213&gt; ORGANISM: Artificial

232 &lt;220&gt; FEATURE:

233 &lt;223&gt; OTHER INFORMATION: Degenerate oligonucleotide primer derived from SEQ ID NO:2

235 &lt;400&gt; SEQUENCE: 4

236 gagagacgag agagaccatg aagagcc

27

239 &lt;210&gt; SEQ ID NO: 5

240 &lt;211&gt; LENGTH: 27

241 &lt;212&gt; TYPE: DNA

242 &lt;213&gt; ORGANISM: Artificial

244 &lt;220&gt; FEATURE:

245 &lt;223&gt; OTHER INFORMATION: Degenerate oligonucleotide primer derived from SEQ ID NO:2

247 &lt;400&gt; SEQUENCE: 5

248 gagagacgag agagaccatg aagaacc

27

251 &lt;210&gt; SEQ ID NO: 6

252 &lt;211&gt; LENGTH: 27

253 &lt;212&gt; TYPE: DNA

254 &lt;213&gt; ORGANISM: Artificial

256 &lt;220&gt; FEATURE:

257 &lt;223&gt; OTHER INFORMATION: Degenerate oligonucleotide primer derived from SEQ ID NO:2

## RAW SEQUENCE LISTING

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Input Set : A:\20060152706460US.ST25.txt

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259 <400> SEQUENCE: 6  
260 gagagacgag agagaccatg aggaacc 27  
263 <210> SEQ ID NO: 7  
264 <211> LENGTH: 26  
265 <212> TYPE: DNA  
266 <213> ORGANISM: Artificial  
268 <220> FEATURE:  
269 <223> OTHER INFORMATION: Degenerate oligonucleotide primer derived from SEQ ID NO:2  
271 <400> SEQUENCE: 7  
272 agagacgaga gagaccgga ggagcc 26  
275 <210> SEQ ID NO: 8  
276 <211> LENGTH: 26  
277 <212> TYPE: DNA  
278 <213> ORGANISM: Artificial  
280 <220> FEATURE:  
281 <223> OTHER INFORMATION: Degenerate oligonucleotide primer derived from SEQ ID NO:2  
283 <400> SEQUENCE: 8  
284 agagacgaga gagaccgga agagcc 26  
287 <210> SEQ ID NO: 9  
288 <211> LENGTH: 26  
289 <212> TYPE: DNA  
290 <213> ORGANISM: Artificial  
292 <220> FEATURE:  
293 <223> OTHER INFORMATION: Degenerate oligonucleotide primer derived from SEQ ID NO:2  
295 <400> SEQUENCE: 9  
296 agagacgaga gagaccgga agaacc 26  
299 <210> SEQ ID NO: 10  
300 <211> LENGTH: 26  
301 <212> TYPE: DNA  
302 <213> ORGANISM: Artificial  
304 <220> FEATURE:  
305 <223> OTHER INFORMATION: Degenerate oligonucleotide primer derived from SEQ ID NO:2  
307 <400> SEQUENCE: 10  
308 agagacgaga gagaccgga ggaacc 26  
311 <210> SEQ ID NO: 11  
312 <211> LENGTH: 25  
313 <212> TYPE: DNA  
314 <213> ORGANISM: Artificial  
316 <220> FEATURE:  
317 <223> OTHER INFORMATION: Degenerate oligonucleotide primer derived from SEQ ID NO:2  
319 <400> SEQUENCE: 11  
320 cgtcacagga ttgatcaacc atctc 25  
323 <210> SEQ ID NO: 12  
324 <211> LENGTH: 25  
325 <212> TYPE: DNA  
326 <213> ORGANISM: Artificial  
328 <220> FEATURE:  
329 <223> OTHER INFORMATION: Degenerate oligonucleotide primer derived from SEQ ID NO:2  
331 <400> SEQUENCE: 12

## RAW SEQUENCE LISTING

DATE: 08/30/2006

PATENT APPLICATION: US/09/730,329A

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Input Set : A:\20060152706460US.ST25.txt

Output Set: N:\CRF4\08302006\I730329A.raw

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332 cgtcacagga ttgatctacc atctc 25
335 <210> SEQ ID NO: 13
336 <211> LENGTH: 25
337 <212> TYPE: DNA
338 <213> ORGANISM: Artificial
340 <220> FEATURE:
341 <223> OTHER INFORMATION: Degenerate oligonucleotide primer derived from SEQ ID NO:2
343 <400> SEQUENCE: 13
344 cgtcacagga ttgatccacc atctc 25
347 <210> SEQ ID NO: 14
348 <211> LENGTH: 25
349 <212> TYPE: DNA
350 <213> ORGANISM: Artificial
352 <220> FEATURE:
353 <223> OTHER INFORMATION: Degenerate oligonucleotide primer derived from SEQ ID NO:2
355 <400> SEQUENCE: 14
356 cgtcacagga ttgatcgacc atctc 25
359 <210> SEQ ID NO: 15
360 <211> LENGTH: 25
361 <212> TYPE: DNA
362 <213> ORGANISM: Artificial
364 <220> FEATURE:
365 <223> OTHER INFORMATION: Degenerate oligonucleotide primer derived from SEQ ID NO:2
367 <400> SEQUENCE: 15
368 cgtcacagga ttgatcaacc atttc 25
371 <210> SEQ ID NO: 16
372 <211> LENGTH: 25
373 <212> TYPE: DNA
374 <213> ORGANISM: Artificial
376 <220> FEATURE:
377 <223> OTHER INFORMATION: Degenerate oligonucleotide primer derived from SEQ ID NO:2
379 <400> SEQUENCE: 16
380 cgtcacagga ttgatctacc atttc 25
383 <210> SEQ ID NO: 17
384 <211> LENGTH: 25
385 <212> TYPE: DNA
386 <213> ORGANISM: Artificial
388 <220> FEATURE:
389 <223> OTHER INFORMATION: Degenerate oligonucleotide primer derived from SEQ ID NO:2
391 <400> SEQUENCE: 17
392 cgtcacagga ttgatccacc atttc 25
395 <210> SEQ ID NO: 18
396 <211> LENGTH: 25
397 <212> TYPE: DNA
398 <213> ORGANISM: Artificial
400 <220> FEATURE:
401 <223> OTHER INFORMATION: Degenerate oligonucleotide primer derived from SEQ ID NO:2
403 <400> SEQUENCE: 18
404 cgtcacagga ttgatcgacc atttc 25
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RAW SEQUENCE LISTING ERROR SUMMARY  
 PATENT APPLICATION: US/09/730,329A

DATE: 08/30/2006  
 TIME: 10:11:44

Input Set : A:\20060152706460US.ST25.txt  
 Output Set: N:\CRF4\08302006\I730329A.raw

**Please Note:**

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:22; N Pos. 12  
 Seq#:23; N Pos. 12  
 Seq#:24; N Pos. 12  
 Seq#:25; N Pos. 12  
 Seq#:26; N Pos. 7  
 Seq#:27; N Pos. 7  
 Seq#:28; N Pos. 3,12  
 Seq#:29; N Pos. 3,12  
 Seq#:34; N Pos. 16  
 Seq#:35; N Pos. 16  
 Seq#:36; N Pos. 16  
 Seq#:37; N Pos. 16  
 Seq#:48; N Pos. 6164,6238,6254,6255,6256,6257,6258,6259,6260,6261,6262,6263  
 Seq#:48; N Pos. 6264,6265,6266,6267,6268,6269,6270,6271,6272  
 Seq#:61; Xaa Pos. 4  
 Seq#:72; Xaa Pos. 10  
 Seq#:73; Xaa Pos. 5  
 Seq#:86; Xaa Pos. 10  
 Seq#:87; Xaa Pos. 2  
 Seq#:88; Xaa Pos. 3  
 Seq#:89; Xaa Pos. 2,3  
 Seq#:90; Xaa Pos. 3,4  
 Seq#:91; Xaa Pos. 3  
 Seq#:92; Xaa Pos. 3  
 Seq#:93; Xaa Pos. 4  
 Seq#:94; Xaa Pos. 3

**Invalid <213> Response:**

Use of "Artificial" only as "<213> Organism" response is incomplete,  
 per 1.823(b) of New Sequence Rules. Valid response is Artificial Sequence.

Seq#:3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29  
 Seq#:30,31,32,33,34,35,36,37,38,39,40,41,45,48,52,53,61,72,73,77,78,79,80,82  
 Seq#:83,84,85,86,87,88,89,90,91,92,93,94

## VERIFICATION SUMMARY

DATE: 08/30/2006

PATENT APPLICATION: US/09/730,329A

TIME: 10:11:44

Input Set : A:\20060152706460US.ST25.txt

Output Set : N:\CRF4\08302006\I730329A.raw

L:458 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:22 after pos.:0  
L:476 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:23 after pos.:0  
L:494 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:24 after pos.:0  
L:512 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:25 after pos.:0  
L:530 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:26 after pos.:0  
L:548 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:27 after pos.:0  
L:571 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:28 after pos.:0  
L:594 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:29 after pos.:0  
L:660 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:34 after pos.:0  
L:678 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:35 after pos.:0  
L:696 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:36 after pos.:0  
L:714 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:37 after pos.:0  
L:1335 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:48 after pos.:6120  
M:341 Repeated in SeqNo=48  
L:2248 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:61 after pos.:0  
L:3114 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:72 after pos.:0  
L:3134 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:73 after pos.:0  
L:3506 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:86 after pos.:0  
L:3543 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:87 after pos.:0  
L:3569 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:88 after pos.:0  
L:3599 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:89 after pos.:0  
L:3630 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:90 after pos.:0  
L:3656 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:91 after pos.:0  
L:3682 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:92 after pos.:0  
L:3708 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:93 after pos.:0  
L:3733 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:94 after pos.:0